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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,109	01/22/2004	David M. Allen	2646-000002	6105

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EXAMINER

SALDANO, LISA M

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/763,109

Applicant(s)

ALLEN, DAVID M.

Examiner

Lisa M. Saldano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/22/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (5,975,797) in view of Chan (3,900,962) and Baxter (3,159,172) and Harrison (5,924,240).

Thomas et al disclose a subterranean water collection and delivery device and system for delivering water, nutrients and air to root areas of a plant (see abstract and column 5, lines 45-50). The system comprises a delivery device 10 wherein the device is elongated and hollow, with an embodiment that *excludes* an optional insert member 24 (see column 5, lines 38-40). The device is installed in a generally vertical orientation proximate the root system of a plant (see Fig.14). The device further includes a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. The wall member 12 is manufactured with open top and bottom. Furthermore, top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located

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therein. The optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant.

Regarding claim 4, Thomas et al disclose a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member.

Regarding claim 12, Thomas et al disclose a top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein.

Regarding claim 14, Thomas et al disclose a water coupling assembly 26 that functions as a mount adapted to be coupled to a water irrigating device.

However, Thomas et al fail to disclose a plurality of deflectors with capturing portions for collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al also fail to disclose an upper flange and lower flange coupled to the wall member housing.

Chan discloses an underground fertilizer device comprising a plurality of deflectors 26 for communicating water outside of aperture 34 to eventually reach soil adjacent to plant-roots. Chan further discloses deflectors or distributors 46 whereby water and fertilizing nutrients are deflected from distributors 46 through to apertures 52,54 for exiting into the ground adjacent plant roots (see Fig. 1 and column 1, line 63 through column 2, line 30).

Regarding claim 6, Chan discloses deflectors are vertically spaced apart from one another.

Regarding claim 7, Chan discloses deflectors 26 that are radially spaced apart from one another such that water poured at the top of the device must come into contact with at least one other deflector 46.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate deflector for delivering water and nutrients to earth, as taught by Chan. Thomas et al disclose an options insert located in the internal cavity of the delivery device that is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al further disclose that the inventions may be used without the insert. Chan disclose the use of deflectors in a fertilizer delivery device wherein water and fertilizer are delivered to the ground through a housing with apertures wherein the water and nutrients are deflected out of the housing and into the ground via a plurality of deflectors. It would have been obvious to substitute the insert of Thomas et al with the deflectors of Chan because they both provide the function of delivering water and nutrients from the internal cavity of a housing, through apertures, and finally to ground adjacent to plant roots.

Baxter discloses a fluid dispensing device 9 for hydrant or irrigation water distributing systems for the ground. Baxter discloses a deflector made from wall elements 35&49 (see Fig. 2), wherein the wall elements are used for capturing and directing water that is poured into the top of a riser 20 outwardly of the riser's wall member 21. The riser is used to deliver water for irrigating the ground (see Fig.1).

Regarding claim 2, the wall elements 35&49 of Baxter form a reservoir configured to hold an amount of water against the wall member 21 of housing or riser 20 (see Fig.2).

Regarding claim 3, the upper portion of wall element 49 is slated, as in designated for a specific purpose or action (see definition for slated in Merriam Webster Collegiate Dictionary, 10th edition), for directing water into the reservoir portion created at the junction of wall elements 35&49 (see Fig.2).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by Baxter, because all three inventions are directed to the delivery of water and/or nutrients to a body of earth adjacent plant roots. Each inventions illustrates a different way to deliver water to plant roots in the ground, thereby providing sufficient motivation to substitute and/or combine either of the inventions' methods of fluid delivery with each other.

Harrison discloses a device to water and fertilize plant roots comprising an elongated, hollow housing 2 with holes 10 for providing water and liquid nutrients to flow there through. Harrison further discloses upper and lower flanges at elements 4,8, whereby the flanges extend outwardly and upwardly from the housing 2 (see Figs.1&2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to include the upper and lower flanges, as taught by Harrison because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

Furthermore, regarding claim 5, as mentioned above, Thomas et al disclose the optional insert member that, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. It would have been obvious to one of ordinary skill in the art at the time of the invention to fabricate the wall member 12 with apertures 22, taught by Thomas et al, from a porous material such as the porous material 24 that

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delivers water to the root zone of a body of earth, as also taught by Thomas et al, because Thomas et al disclose that the wall member 12 may be formed from a rigid or a flexible material (see column 5, lines 15-20). As long as the substituted porous material allows the invention to function as intended, any flexible or rigid material that allows for water flow there through is a mechanically equivalent functioning substitute.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, as applied to claim 1 above, in further view of Ogi (6,540,436).

Thomas et al, Chan, Baxter and Harrison disclose the features as described above.

However, Thomas et al, Chan, Baxter and Harrison fail to disclose two delivery units with a conduit interconnecting them.

Ogi discloses at least two deep-root watering devices 10 with branch conduits 34 and underground irrigation water supply lines 36 interconnecting the two deep-root watering devices 10.

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide interconnecting conduits for connecting a plurality of delivery devices, as taught by Thomas et al, to one another as well as to irrigation/fertilizations systems because a plurality of devices may be needed to cover larger areas of soil containing plant roots, as taught by Ogi.

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4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, in further view of Ogi, and in further view of Lynch (271,089).

Thomas et al, Chan, Baxter, Harrison and Ogi disclose the features as described above.

However, Thomas et al, Chan, Baxter, Harrison and Ogi fail to disclose fluid conduits with a porous upper portion and less porous lower portion.

Lynch discloses a drain tile comprising a porous upper portion *b* and a less porous lower portion *c* (see Figs.1&2).

Regarding claim 10, the bottom of the drain pipe *c* is impermeable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the piping of the delivery system of Thomas et al as modified by Ogi, because Ogi clearly illustrates the use of piping for conveying liquid through an irrigation and aeration system and Thomas et al disclose water/fertilizer delivery systems for use in such irrigation and aeration systems. The use of a drainage tile as disclosed by Ogi with perforations in the top of the pipe allow water adjacent to the pipe to be drained into the pipe for subsequent distribution right into the plant's root zone, which is performed by the delivery systems themselves.

5. Claims 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, in further view of Ogi, and in further view of Saggese (4,378,032).

Thomas et al, Chan, Baxter, Harrison and Ogi disclose the features as described above.

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However, Thomas et al, Chan, Baxter, Harrison and Ogi fail to disclose that perforations cooperate to define an aperture in the wall member of one of the delivery devices.

Saggese disclose a slotted concrete pipe for use in leaching fields and for drainage of sewer or water from catch basins and similar structures. Saggese discloses that the concrete pipe has a plurality of inserts 30 mounted in spaces to locate perforations or slots for pipe (see column 4, lines 10-19).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the piping of the delivery system of Thomas et al as modified by Ogi, because Ogi clearly illustrates the use of piping for conveying liquid through an irrigation and aeration system and Thomas et al disclose water/fertilizer delivery systems for use in such irrigation and aeration systems. Saggese teaches the use of perforations that cooperate with apertures within a pipe wherein the apertures may be used to receive a fluid conduit there through. Since the invention of Thomas et al as modified by Ogi clearly suggests the use of piping in combination with delivery devices to provide irrigation services to earth, there exists sufficient motivation to provide accommodations within a delivery device of Thomas et al, such as by providing perforations in the delivery device for accommodation of piping, taught by Saggese.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter and Harrison, as applied to claim 12 above, in further view of Kanst (1,280,486).

Thomas et al, Chan, Baxter and Harrison disclose the features as described above.

However, Thomas et al, Chan, Baxter and Harrison fail to disclose a dipstick.

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Kanst discloses a tree irrigator 3 comprising a rod 9 extending through cap 8 and into the internal cavity of the housing of the irrigator 3.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Thomas et al to incorporate the rod, as taught by Kanst, because the rod may be used as a dipstick to gauge the level of liquid or lack thereof within the system.

7. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (5,975,797) in view of Chan (3,900,962) and Baxter (3,159,172).

Thomas et al disclose a subterranean water collection and delivery device and system for delivering water, nutrients and air to root areas of a plant (see abstract and column 5, lines 45-50). The system comprises a delivery device 10 wherein the device is elongated and hollow, with an embodiment that *excludes* an optional insert member 24 (see column 5, lines 38-40). The device is installed in a generally vertical orientation proximate the root system of a plant (see Fig.14). The device further includes a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. The wall member 12 is manufactured with open top and bottom. Furthermore, top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein. The optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al disclose a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. Thomas et al disclose a top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of

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apertures 72,82 located therein. Thomas et al disclose a water coupling assembly 26 that functions as a mount adapted to be coupled to a water irrigating device.

However, Thomas et al fail to disclose a plurality of deflectors with sloped and capturing portions for collection and delivery of water, air and nutrients to the root areas of a plant.

Chan discloses an underground fertilizer device comprising a plurality of deflectors 26 for communicating water outside of aperture 34 to eventually reach soil adjacent to plant-roots. Chan further discloses deflectors or distributors 46 whereby water and fertilizing nutrients are deflected from distributors 46 through to apertures 52,54 for exiting into the ground adjacent plant roots (see Fig. 1 and column 1, line 63 through column 2, line 30). Chan discloses deflectors are vertically spaced apart from one another. Chan discloses deflectors 26 that are radially spaced apart from one another such that water poured at the top of the device must come into contact with at least one other deflector 46.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate deflector for delivering water and nutrients to earth, as taught by Chan. Thomas et al disclose an options insert located in the internal cavity of the delivery device that is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al further disclose that the inventions may be used without the insert. Chan disclose the use of deflectors in a fertilizer delivery device wherein water and fertilizer are delivered to the ground through a housing with apertures wherein the water and nutrients are deflected out of the housing and into the ground via a plurality of deflectors. It would have been obvious to substitute the insert of Thomas et al with the deflectors

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of Chan because they both provide the function of delivering water and nutrients from the internal cavity of a housing, through apertures, and finally to ground adjacent to plant roots.

Baxter discloses a fluid dispensing device 9 for hydrant or irrigation water distributing systems for the ground. Baxter discloses a deflector made from wall elements 35&49 (see Fig. 2), wherein the wall elements are used for capturing and directing water that is poured into the top of a riser 20 outwardly of the riser's wall member 21. The riser is used to deliver water for irrigating the ground (see Fig.1).The wall elements 35&49 of Baxter form a reservoir configured to hold an amount of water against the wall member 21 of housing or riser 20 (see Fig.2). The upper portion of wall element 49 is slated, as in designated for a specific purpose or action (see definition for slated in Merriam Webster Collegiate Dictionary, 10th edition), for directing water into the reservoir portion created at the junction of wall elements 35&49 (see Fig.2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by Baxter, because all three inventions are directed to the delivery of water and/or nutrients to a body of earth adjacent plant roots. Each inventions illustrates a different way to deliver water to plant roots in the ground, thereby providing sufficient motivation to substitute and/or combine either of the inventions' methods of fluid delivery with each other:

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to incorporate the plurality of deflector devices, as taught by Chan, and the capture and delivery deflector feature, as taught by

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Baxter, with the wall element being sloped as desired because sloping the wall element of Baxter would increase the volume of water captured by the deflector's water-capturing portion.

8. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al in view of Chan and Baxter, as applied to claim 16 above, in further view of Harrison (5,924,240).

Thomas et al, Chan and Baxter disclose the features as described above.

However, Thomas et al, Chan and Baxter fail to disclose an upper flange and lower flange coupled to the wall member housing.

Harrison discloses a device to water and fertilize plant roots comprising an elongated, hollow housing 2 with holes 10 for providing water and liquid nutrients to flow there through. Harrison further discloses upper and lower flanges at elements 4,8, whereby the flanges extend outwardly and upwardly from the housing 2 (see Figs.1&2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to include the upper and lower flanges, as taught by Harrison because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

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9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas et al (5,975,797) in view of Harrison (5,924,240).

Thomas et al disclose a subterranean water collection and delivery device and system for delivering water, nutrients and air to root areas of a plant (see abstract and column 5, lines 45-50). The system comprises a delivery device 10 wherein the device is elongated and hollow, with an embodiment that *excludes* an optional insert member 24 (see column 5, lines 38-40). The device is installed in a generally vertical orientation proximate the root system of a plant (see Fig.14). The device further includes a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. The wall member 12 is manufactured with open top and bottom. Furthermore, top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein. The optional insert member, when used, is located in the internal cavity and is used to facilitate collection and delivery of water, air and nutrients to the root areas of a plant. Thomas et al disclose a wall member 12 that defines an internal cavity with apertures 22 configured to permit water and air to be transmitted through the wall member. Thomas et al disclose a top surface element 48 and bottom surface element 70 of the device 10 are open with plurality of apertures 72,82 located therein. Thomas et al disclose a water coupling assembly 26 that functions as a mount adapted to be coupled to a water-irrigating device.

However, Thomas et al also fail to disclose an upper flange and lower flange coupled to the wall member housing.

Harrison discloses a device to water and fertilize plant roots comprising an elongated, hollow housing 2 with holes 10 for providing water and liquid nutrients to flow there through.

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Harrison further discloses upper and lower flanges at elements 4,8, whereby the flanges extend outwardly and upwardly from the housing 2 (see Figs.1&2).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the delivery device of Thomas et al to include the upper and lower flanges, as taught by Harrison because the flanges extend outwardly of the housing disclosed by Harrison and thereby help to retain and maintain the water and fluid nutrients emitted by the delivery housing within a particular zone around the housing, preferably a predetermined area of soil in a root zone of existing plants.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Buhrer (349,874) and Lehto et al (4,577,997) disclose features that are pertinent to the present application.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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